

CAPITAL STOCK VALUE SHARES

Year	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
Gen Support Equipment	0.0300	0.0326	0.0362	0.0366	0.0381	0.0431	0.0442	0.0455	0.0438	0.0427
Central Office	0.1625	0.1588	0.1600	0.1627	0.1676	0.1654	0.1613	0.1644	0.1609	0.1529
Transmission	0.1027	0.1105	0.1179	0.1233	0.1268	0.1268	0.1244	0.1248	0.1277	0.1285
Information Orig/Term	0.0628	0.0714	0.0866	0.0807	0.0547	0.0491	0.0441	0.0401	0.0368	0.0340
Cable & Wire	0.4875	0.4924	0.4868	0.4637	0.4814	0.4868	0.5011	0.4987	0.5023	0.5133
Buildings	0.1348	0.1343	0.1335	0.1330	0.1312	0.1290	0.1249	0.1284	0.1285	0.1288

AVERAGE VALUE SHARES

Gen Support Equipment	0.0313	0.0339	0.0359	0.0374	0.0406	0.0437	0.0449	0.0447	0.0433
Central Office	0.1606	0.1594	0.1614	0.1653	0.1688	0.1633	0.1628	0.1626	0.1669
Transmission	0.1068	0.1142	0.1206	0.1250	0.1267	0.1255	0.1248	0.1263	0.1281
Information Orig/Term	0.0770	0.0800	0.0837	0.0577	0.0519	0.0466	0.0421	0.0384	0.0354
Cable & Wire	0.4900	0.4898	0.4863	0.4826	0.4841	0.4940	0.4900	0.5005	0.5078
Buildings	0.1348	0.1339	0.1332	0.1321	0.1301	0.1269	0.1257	0.1275	0.1288

CAPITAL STOCK GROWTH RATES

Gen Support Equipment	14.9%	14.9%	10.2%	7.6%	13.0%	10.1%	8.2%	7.6%	8.3%
Central Office	3.5%	7.4%	6.4%	5.0%	5.8%	3.3%	3.4%	2.2%	0.3%
Transmission	6.8%	6.7%	6.3%	5.7%	5.7%	2.6%	2.9%	3.4%	3.3%
Information Orig/Term	-14.4%	-5.8%	-6.9%	-5.6%	-7.2%	-6.9%	-6.5%	-6.3%	-5.5%
Cable & Wire	5.3%	3.9%	3.6%	3.3%	3.2%	2.8%	3.2%	3.0%	3.2%
Buildings	1.6%	2.1%	1.4%	0.6%	0.3%	0.7%	1.1%	0.8%	1.2%

AGGREGATE CAPITAL STOCK GROWTH RATE	3.4%	4.3%	4.0%	3.2%	3.4%	2.4%	2.6%	2.5%	2.4%
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AVERAGE CAPITAL STOCK
GROWTH RATE
1983-1991

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Calculation of Input Price Index

	Total Cost	Input Cost % Change	Input Quantity % Change	Input Price % Change	Price Index
1984	\$64,590,014,721				1.000
1985	\$65,039,266,591	0.69%	1.16%	-0.47%	0.995
1986	\$64,997,067,552	-0.06%	0.30%	-0.38%	0.992
1987	\$67,556,497,075	3.86%	1.82%	2.04%	1.012
1988	\$69,721,024,909	3.15%	3.02%	0.13%	1.014
1989	\$67,875,841,329	-2.68%	2.71%	-5.39%	0.960
1990	\$76,020,813,175	11.33%	-0.74%	12.07%	1.083
1991	\$79,746,269,624	4.78%	1.18%	3.60%	1.123
1992	\$75,753,954,931	-5.14%	-1.94%	-3.20%	1.088
		2.0%	0.9%	1.1%	
	Capital	Capital Cost	Capital Qty	Capital Pric	Price Index
1984	\$31,068,772,033				1.000
1985	\$30,459,414,489	-1.98%	3.52%	-5.51%	0.946
1986	\$30,395,883,175	-0.21%	4.71%	-4.92%	0.901
1987	\$32,749,351,663	7.46%	4.33%	3.13%	0.930
1988	\$33,177,312,982	1.30%	3.38%	-2.08%	0.911
1989	\$29,151,523,875	-12.94%	3.93%	-16.86%	0.769
1990	\$36,405,853,804	22.22%	2.58%	19.84%	0.936
1991	\$38,470,231,167	5.52%	2.91%	2.80%	0.961
1992	\$35,307,660,487	-8.58%	2.65%	-11.23%	0.859
		1.60%	3.50%	-1.90%	
	Labor	Labor Cost	Labor Qty	Labor Price	Price Index
1984	\$20,112,705,408				1.000
1985	\$19,871,597,633	-1.21%	-5.74%	4.53%	1.046
1986	\$19,306,080,808	-2.89%	-7.16%	4.27%	1.092
1987	\$19,314,541,191	0.04%	0.58%	-0.53%	1.086
1988	\$19,718,271,209	2.07%	1.26%	0.80%	1.095
1989	\$20,021,621,680	1.53%	-2.27%	3.80%	1.137
1990	\$20,408,515,729	1.91%	-5.05%	6.96%	1.219
1991	\$20,887,109,094	2.32%	-2.75%	5.07%	1.283
1992	\$20,802,612,095	-0.41%	-5.22%	4.82%	1.346
		0.42%	-3.29%	3.71%	
	Materials	MRS Cost	MRS Qty	MRS Price	Price Index
1984	\$13,408,537,280				1.000
1985	\$14,708,254,470	9.25%	5.80%	3.45%	1.035
1986	\$15,295,103,768	3.91%	1.09%	2.82%	1.065
1987	\$15,492,604,221	1.28%	-1.76%	3.05%	1.098
1988	\$16,825,440,718	8.25%	4.43%	3.83%	1.141
1989	\$18,702,695,774	10.58%	6.15%	4.42%	1.192
1990	\$19,206,643,642	2.66%	-1.84%	4.50%	1.247
1991	\$20,388,929,364	5.97%	2.00%	3.97%	1.297
1992	\$19,643,682,349	-3.72%	-6.97%	3.25%	1.340
		4.77%	1.11%	3.66%	

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Calculation of Input Price Index

	Total Cost	Input Cost % Change	Input Quantity % Change	Input Price % Change	Price Index
1984	\$64,590,014,721				1.000
1985	\$65,039,268,591	0.69%	1.16%	-0.47%	0.995
1986	\$64,997,067,552	-0.06%	0.30%	-0.36%	0.992
1987	\$67,556,497,075	3.86%	1.82%	2.04%	1.012
1988	\$69,721,024,909	3.15%	3.02%	0.13%	1.014
1989	\$67,875,841,329	-2.68%	2.71%	-5.39%	0.960
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1992	\$75,753,954,931	-5.14%	-1.94%	-3.20%	1.088
		2.0%	0.9%	1.1%	
	Capital	Capital Cost	Capital Qty	Capital Prc	Price Index
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		1.60%	3.50%	-1.90%	
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	Materials	MRS Cost	MRS Qty	MRS Price	Price Index
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1992	\$19,643,682,349	-3.72%	-6.97%	3.25%	1.340
		4.77%	1.11%	3.66%	

Output Quantity Indexes								
	Local	Interstate End User Access	Interstate Switched Access	Interstate Special Access	Intrastate Access	Long Distance	Misc	Total Output
1984	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1985	1.009	1.030	1.068	1.027	1.065	0.988	1.082	1.031
1986	1.034	1.056	1.146	1.377	1.114	1.063	0.909	1.062
1987	1.043	1.068	1.288	1.466	1.185	1.144	0.890	1.103
1988	1.057	1.106	1.420	1.465	1.183	1.246	1.018	1.160
1989	1.066	1.143	1.592	1.418	1.235	1.343	1.037	1.219
1990	1.158	1.173	1.705	1.410	1.254	1.380	1.010	1.286
1991	1.196	1.212	1.804	1.320	1.289	1.369	1.015	1.295
1992	1.247	1.231	1.914	1.401	1.327	1.350	0.931	1.322
Output Price Indexes								
	Local	Interstate End User Access	Interstate Switched Access	Interstate Special Access	Intrastate Access	Long Distance	Misc	Total Output
1984	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1985	1.050	2.658	0.941	0.973	1.028	1.011	1.035	1.034
1986	1.085	4.184	0.845	0.947	0.983	1.008	1.085	1.042
1987	1.088	5.253	0.710	0.922	0.961	0.903	1.098	1.020
1988	1.072	5.984	0.641	0.898	0.916	0.967	1.141	1.001
1989	1.058	7.127	0.541	0.829	0.891	0.928	1.192	0.974
1990	1.033	7.382	0.477	0.820	0.861	0.895	1.247	0.946
1991	1.042	7.376	0.446	0.842	0.823	0.868	1.297	0.938
1992	1.040	7.463	0.425	0.808	0.785	0.855	1.340	0.929
Output Quantity Index Growth Rates								
	Local	Interstate End User Access	Interstate Switched Access	Interstate Special Access	Intrastate Access	Long Distance	Misc	Total Output
1984								
1985	0.9%	3.0%	6.5%	2.7%	9.1%	-1.2%	7.9%	3.0%
1986	2.4%	2.4%	7.0%	29.3%	1.7%	7.3%	-17.4%	3.0%
1987	0.9%	3.0%	10.2%	6.3%	8.2%	7.3%	-2.1%	3.8%
1988	1.3%	2.0%	11.4%	-0.1%	-0.2%	8.5%	13.5%	5.0%
1989	3.6%	3.0%	11.4%	-3.3%	4.3%	7.5%	1.8%	5.0%
1990	5.5%	2.6%	6.9%	-0.5%	1.5%	2.7%	-2.6%	3.8%
1991	3.2%	3.2%	5.7%	-6.6%	2.8%	-0.7%	0.4%	2.3%
1992	4.2%	1.8%	5.9%	6.0%	2.9%	-1.4%	-8.6%	2.1%
Average Growth 1984-92	2.8%	2.6%	8.1%	4.2%	3.5%	3.8%	-0.9%	3.5%
Output Price Index Growth Rates								
	Local	Interstate End User Access	Interstate Switched Access	Interstate Special Access	Intrastate Access	Long Distance	Misc	Total Output
1984								
1985	4.9%	97.8%	-6.1%	-2.7%	2.7%	1.1%	3.5%	3.3%
1986	3.2%	45.4%	-10.8%	-2.7%	-3.4%	-0.2%	2.8%	0.8%
1987	0.3%	22.7%	-17.4%	-2.7%	-4.3%	-1.8%	3.0%	-2.1%
1988	-1.4%	13.2%	-10.1%	-2.7%	-3.7%	-2.6%	3.8%	-1.9%
1989	-1.3%	17.3%	-17.1%	-7.9%	-2.8%	-4.1%	4.4%	-2.7%
1990	-2.4%	3.5%	-12.6%	-1.1%	-3.5%	-3.7%	4.5%	-2.9%
1991	0.8%	-0.1%	-6.7%	2.6%	-4.4%	-3.0%	4.0%	-0.8%
1992	-0.2%	1.2%	-4.7%	-4.4%	-4.7%	-1.5%	3.2%	-1.0%
Average Growth 1984-92	0.5%	25.1%	-10.7%	-2.7%	-3.0%	-2.0%	3.7%	-0.9%
Revenue Shares by Category								
	Local	Interstate End User Access	Interstate Switched Access	Interstate Special Access	Intrastate Access	Toll	Miscellaneous	
1984	0.439	0.009	0.191	0.032	0.073	0.160	0.095	1.000
1985	0.438	0.024	0.181	0.030	0.073	0.153	0.101	1.000
1986	0.446	0.037	0.167	0.038	0.071	0.157	0.084	1.000
1987	0.444	0.047	0.153	0.039	0.072	0.163	0.083	1.000
1988	0.427	0.053	0.148	0.036	0.070	0.168	0.095	1.000
1989	0.430	0.064	0.139	0.032	0.069	0.167	0.099	1.000
1990	0.438	0.067	0.129	0.031	0.070	0.164	0.100	1.000
1991	0.449	0.068	0.126	0.029	0.070	0.154	0.103	1.000
1992	0.461	0.069	0.126	0.029	0.071	0.147	0.096	1.000
Average Revenue Share 1984-92	0.441	0.049	0.151	0.033	0.071	0.159	0.095	1.000

Productivity Calculations for USTA Study

	INPUT QUANTITY										OUTPUT QUANTITY				PRODUCTIVITY GRO.			
	INPUT COST			CAPITAL INDEX	LABOR INDEX	MRS INDEX	% CHANGE	1984=100	1984	1985	1986	1987	1988	1989	1990	1991	1992	
	CAPITAL	LABOR	MRS															
1984	\$31,068,772,033	\$20,112,705,408	\$13,408,537,280	1.0000	1.0000	1.0000		1.000	1984	1985	1986	1987	1988	1989	1990	1991	1992	
1985	\$30,450,414,489	\$19,871,597,633	\$14,708,254,470	1.0359	0.9442	1.0507	3.01%	1.031	1985	3.0%	1.2%	1.0%						
1986	\$30,395,863,175	\$19,306,080,608	\$15,295,103,788	1.0858	0.8790	1.0713	3.02%	1.062	1986	3.0%	0.3%	2.7%						
1987	\$32,749,351,863	\$19,314,541,191	\$15,492,604,221	1.1338	0.8841	1.0528	3.81%	1.103	1987	3.8%	1.8%	2.0%						
1988	\$33,177,312,982	\$19,718,271,209	\$16,825,440,718	1.1728	0.8954	1.1002	4.98%	1.160	1988	6.0%	3.0%	1.9%						
1989	\$29,151,523,875	\$20,021,621,680	\$16,702,695,774	1.2196	0.8753	1.1701	5.00%	1.219	1989	5.0%	2.7%	2.3%						
1990	\$38,405,853,804	\$20,408,515,729	\$19,206,643,842	1.2617	0.8322	1.1487	3.78%	1.206	1990	3.8%	-0.7%	4.5%						
1991	\$38,470,231,187	\$20,887,109,094	\$20,388,929,384	1.2887	0.8098	1.1720	2.30%	1.295	1991	2.3%	1.2%	1.1%						
1992	\$35,307,860,487	\$20,802,612,095	\$19,843,682,349	1.3239	0.7684	1.0931	2.09%	1.322	1992	2.1%	-1.9%	4.0%						
Annual Input Cost Shares																		
Capital			Labor			Materials			INPUT GROWTH		INPUT INDEX		3.49%					
1984			0.481			0.311			CAPITAL INDEX		LABOR INDEX		MRS INDEX		% CHANGE		1984=100	
1985			0.468			0.306			3.52%		-6.74%		5.80%		1.16%		1.0000	
1986			0.468			0.297			4.71%		-7.16%		1.09%		0.30%		1.0117	
1987			0.485			0.288			4.33%		0.58%		-1.76%		1.82%		1.0147	
1988			0.478			0.283			3.38%		1.26%		4.43%		3.02%		1.0333	
1989			0.429			0.295			0.276		3.93%		-2.27%		6.15%		2.71%	
1990			0.479			0.268			0.263		2.58%		-5.05%		-1.84%		-0.74%	
1991			0.482			0.262			0.266		2.91%		-2.76%		2.00%		1.18%	
1992			0.466			0.275			0.269		2.65%		-5.22%		-6.97%		-1.94%	
AVG 84-92			0.470			0.267			0.243		3.60%		-3.29%		1.11%		0.94%	

Local Exchange Carrier Total Factor Productivity

	Total Output Index	Total Output Growth Rate	Total Input Index	Total Input Growth Rate	TFP Index	TFP Growth Rate
1984	1.000		1.000		1.000	
1985	1.031	3.0%	1.012	1.2%	1.019	1.9%
1986	1.062	3.0%	1.015	0.3%	1.047	2.7%
1987	1.103	3.8%	1.033	1.8%	1.088	2.0%
1988	1.180	5.0%	1.065	3.0%	1.089	1.9%
1989	1.219	5.0%	1.094	2.7%	1.114	2.3%
1990	1.266	3.8%	1.086	-0.7%	1.165	4.5%
1991	1.295	2.3%	1.099	1.2%	1.178	1.1%
1992	1.322	2.1%	1.078	-1.9%	1.227	4.0%
Average Growth 1984-92		3.5%	-	0.9%		2.8%

Annual Price and Quantity Indexes of Inputs

	Capital Price	Capital Quantity	Labor Price	Labor Quantity	Materials Price	Materials Quantity	Total Input Price	Total Input Quantity
1984	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1985	0.948	1.036	1.048	0.944	1.035	1.060	0.995	1.012
1986	0.901	1.086	1.092	0.879	1.065	1.071	0.992	1.015
1987	0.930	1.134	1.086	0.884	1.098	1.053	1.012	1.033
1988	0.911	1.173	1.095	0.895	1.141	1.100	1.014	1.065
1989	0.789	1.220	1.137	0.875	1.192	1.170	0.960	1.094
1990	0.936	1.252	1.219	0.832	1.247	1.148	1.083	1.086
1991	0.961	1.289	1.283	0.810	1.297	1.172	1.123	1.099
1992	0.859	1.323	1.346	0.788	1.340	1.083	1.088	1.078

Price and Quantity Indexes of Inputs Growth Rates

	Capital Price	Capital Quantity	Labor Price	Labor Quantity	Materials Price	Materials Quantity	Total Input Price	Total Input Quantity
1984								
1985	-5.5%	3.5%	4.5%	-5.7%	3.5%	5.8%	-0.5%	1.2%
1986	-4.9%	4.7%	4.3%	-7.2%	2.8%	1.1%	-0.4%	0.3%
1987	3.1%	4.3%	-0.5%	0.6%	3.0%	-1.8%	2.0%	1.8%
1988	-2.1%	3.4%	0.6%	1.3%	3.8%	4.4%	0.1%	3.0%
1989	-16.9%	3.9%	3.8%	-2.3%	4.4%	6.2%	-5.4%	2.7%
1990	19.6%	2.8%	7.0%	-5.0%	4.5%	-1.8%	12.1%	-0.7%
1991	2.6%	2.9%	5.1%	-2.7%	4.0%	2.0%	3.8%	1.2%
1992	-11.2%	2.8%	4.8%	-5.2%	3.2%	-7.0%	-3.2%	-1.9%
Average Growth 1984-92	-1.9%	3.5%	3.7%	-3.3%	3.7%	1.1%	1.1%	0.9%

Cost Shares of Inputs

	Capital	Labor	Materials
1984	0.481	0.311	0.208
1985	0.468	0.306	0.226
1986	0.468	0.297	0.235
1987	0.485	0.286	0.229
1988	0.476	0.283	0.241
1989	0.429	0.295	0.276
1990	0.479	0.288	0.253
1991	0.482	0.282	0.256
1992	0.466	0.275	0.259
Average Cost Share 1984-92	0.470	0.287	0.243